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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,383	01/12/2006	Guofu Zhou	NL030843	8993
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EXAMINER				
STTA, GRANT				
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2629				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/564,383

Applicant(s)

ZHOU ET AL.

Examiner

GRANT D. SITTA

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 11/12/2006
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 11 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 11 is directed to a program itself, since computer program product is not defined in the specification, and not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program nor a manufacture structurally and functionally interconnected with the program in a manner which enable the program to act as a computer component and realize its functionality. It's also clearly not directed to a composition of matter. Therefore, it's non-statutory under 35 USC 101.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato et al (4,041,481) hereinafter, Sato.
5. In regards to claim 1, Sato teaches an electrophoretic display unit (1,100) comprising (**fig. 1 (10)**):

an electrophoretic display panel (60) (**fig. 1 (10)**) comprising selection electrodes (41,42,43) and data electrodes (31, 32, 33, 34), a crossing of a selection electrode (41, 42, 43) and a data electrode (31, 32, 33, 34) being associated with a pixel (**fig. 1 (10) col. 3, lines 44-67**);

data driving circuitry (30,70) for supplying a first and second data pulse (DP1,DP2) to the data electrodes (31,32,33,34) (**fig. 1 (30) fig. 6D data pulses and fig. 7 D-7F col. 7, lines 9-40**);

selection driving circuitry (40) for supplying a first (SP1) and a second selection pulse (SP2) to respective selection electrodes (41, 42, 43) (**fig. 1 (20) fig. 6E selection signal and fig. 7A-7C**); and

a controller (20) (**fig. 1 (40)**) for controlling switching circuitry (50) (**fig. 4 and fig. 5 switching circuitry**) for coupling a data electrode (31,32,33,34) to a voltage reference source (**fig. 5 and Pause signal**) (REF) after an end (T1) of the first selection pulse (SP1)(**fig. 6c and 6E last pause signal**) and before an end (T2) of a subsequent second selection pulse (SP2) (**fig. 7A-7C Tp**), with a reference voltage of the voltage reference source (REF) having a value between extreme voltage values of the first and the second data pulses (DP1,DP2) (**fig. 7D-7F 0V and fig. 3 (d) Tp and 0V**).

6. In regards to claim 10, Sato teaches method for driving an electrophoretic display unit (1,100) comprising an electrophoretic display panel (60) comprising selection electrodes (41,42,43) and data electrodes (31, 32, 33, 34), a crossing of a selection

electrode (41, 42, 43) and a data electrode (31, 32, 33, 34) being associated with a pixel (11) **(fig. 1 (10) col. 3, lines 44-67)**, the method comprising the steps of:

supplying data pulses (DP1,DP2) to the pixels (11) via the data electrodes (31,32,33,34) **(fig. 1 (30) fig. 6D data pulses and fig. 7 D-7F col. 7, lines 9-40)**; and

supplying a first (SP1) and a second selection pulse (SP2) to respective selection electrodes (41, 42, 43) **(fig. 1 (20) fig. 6E selection signal and fig. 7A-7C)**; and

switching circuitry (50) **(fig. 4 and fig. 5 switching circuitry)** for coupling a data electrode (31,32,33,34) to a voltage reference source **(fig. 5 and Pause signal)** (REF) after an end (T1) of the first selection pulse (SP1)**(fig. 6c and 6E last pause signal)** and before an end (T2) of a subsequent second selection pulse (SP2) **(fig. 7A-7C Tp)**, with a reference voltage of the voltage reference source (REF) having a value between extreme voltage values of the first and the second data pulses (DP1,DP2) **(fig. 7D-7F 0V and fig. 3 (d) Tp and 0V)**.

7. In regards to claim 2, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 1, wherein the reference voltage corresponds with ground level **(fig. 3 (d) "0")**.

8. In regards to claim 3, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 1, wherein the controller (20) is adapted to control the switching circuitry (50) for coupling the data electrode (31,32,33,34) to the voltage reference source (REF) after the end (T1) of the first selection pulse (SP1) and before a start of the second selection pulse (SP2) **(fig. 6c and 6E last pause signal)**.

9. In regards to claim 4, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 1, wherein the controller (20) is adapted to control the data driving circuitry (30,70) to provide: shaking data pulses (**fig. 6D data signal and upward swing before it reaches maxim voltage**) (Sh.sub.1,Sh.sub.2); one or more reset data pulses (R) (**fig. 6A and 6B**); and one or more driving data pulses (Dr); via the data electrodes (31,32,33,34) to the pixels (11) (**fig. 6D data signal**).

10. In regards to claim 5, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 1, wherein the controller (20) is adapted to control the switching circuitry (50) for coupling the data electrode (31,32,33,34) to the voltage reference source (REF) if the first and the second data pulses (DP1,DP2) have amplitudes of opposite polarity, a timing of the first and second data pulses (DP1,DP2) corresponding with a timing of the first (SP1) and second selection pulse (SP2), respectively. (**fig. 7D-7F V to -V and corresponding pause signal**).

11. In regards to claim 6, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 5, further comprising a memory coupled to the controller (20) for storing information about the amplitudes of the first and second data pulses (DP1,DP2) (**fig. 4 and fig. 5 logic gates**).

12. In regards to claim 7, Sato teaches an electrophoretic display unit (1,100) as claimed in claim 1, wherein the switching circuitry (50) coupled to the data driving circuitry (30) and the switching elements (12) (**fig. 1 (40)**).

13. In regards to claim 8, Sato teaches data driving circuitry (70) for use in an electrophoretic display unit (1,100) as claimed in claim 1, wherein the switching circuitry (50) forms part of the data driving circuitry (70) (**fig. 1 (40)**).

14. In regards to claim 9, Sato teaches a display device comprising an electrophoretic display unit (1,100) as claimed in claim 1; and a storage medium for storing information to be displayed (**col. 1, lines 54-65**).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Zehner et al (7,012,600) hereinafter, Zehner.

18. In regards to claim 11, Sato teaches an electrophoretic display unit (1,100) comprising an electrophoretic display panel (60) comprising selection electrodes (41,42,43) and data electrodes (31, 32, 33, 34), a crossing of a selection electrode (41, 42, 43) and a data electrode (31, 32, 33, 34) being associated with a pixel (11) (**fig. 1 (10) col. 3, lines 44-67**), the method comprising the steps of:

supplying data pulses (DP1,DP2) to the pixels (11) via the data electrodes (31,32,33,34) (**fig. 1 (30) fig. 6D data pulses and fig. 7 D-7F col. 7, lines 9-40**); and

supplying a first (SP1) and a second selection pulse (SP2) to respective selection electrodes (41, 42, 43) (**fig. 1 (20) fig. 6E selection signal and fig. 7A-7C**); and

switching circuitry (50) (**fig. 4 and fig. 5 switching circuitry**) for coupling a data electrode (31,32,33,34) to a voltage reference source (**fig. 5 and Pause signal**) (REF) after an end (T1) of the first selection pulse (SP1)(**fig. 6c and 6E last pause signal**)

and before an end (T2) of a subsequent second selection pulse (SP2) (**fig. 7A-7C Tp**), with a reference voltage of the voltage reference source (REF) having a value between extreme voltage values of the first and the second data pulses (DP1,DP2) (**fig. 7D-7F 0V and fig. 3 (d) Tp and 0V**).

Sato differs from the claimed invention in that Sato does not explicitly disclose using a computer program product.

However, Zehner teaches a system and method for using a computer program product (fig. 1 12, 14, and 10)).

It would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify Sato to include the use of a computer program product as taught by Zehner in order to make the display readily addressable and because of ease of compatibility with computers.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GRANT D. SITTA whose telephone number is (571)270-1542. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sumati Lefkowitz/
Supervisory Patent Examiner, Art Unit 2629

/Grant D Sitta/
Examiner, Art Unit 2629
March 2, 2009